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UN Regulation No. 129 (Enhanced Child Restraint Systems)

Proposal for Supplement 5 to the 01 series of amendments to UN Regulation No. 129

Submitted by the expert from Spain*

The text reproduced below was prepared by the expert from Spain on behalf of the Technical Services Group (TSG) on UN Regulation No. 129. The modifications to the current text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

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I. Proposal

Paragraph 6.6.4.4.1.1., amend to read:

"6.6.4.4.1.1. Forward facing Enhanced Child Restraint Systems

Head excursion: No part of the head of the dummy shall pass beyond the planes BA, DA and DE as defined in Figure 1 below.

This shall be judged up to 300 ms or the moment that the dummy has come to a definitive standstill whatever occurs first.

For all forward facing Enhanced Child Restraint Systems, the head of the dummy may pass beyond the DE plane, if there is part of the child restraint structure, i.e. head pad or backrest, behind the head of the dummy, at the point the head passes the DE plane."

II. Justification

1. The assessment of the DE plane only applies to rearward facing Child Restraint Systems (CRS) in UN Regulation No. 44. The DE plane assessment remains relevant for rearward facing child restraints in UN Regulation No. 129.

2. The combination of a stiffer test bench foam and the design of the test dummy, can mean that when testing forward facing child restraints (including boosters), the dummy's head often passes the DE plane. The Q-series dummies are not proven to be biofidelic during the rebound phase of the impact test.

3. For forward facing child restraints, there is often a structure of the child restraint, (either head pad or backrest) behind the head of the dummy at the point the DE plane passes. The energy absorption properties of this structure will have been tested using the test method described in UN Regulation No. 129. Therefore this structure would provide protection to the child's head.

4. It is therefore not necessary to assess the DE plane for forward facing child restraints that maintain the structure of the child restraint behind the head of the dummy.